

What is claimed is:

1. An image blur correction camera, comprising:

a photographing optical system;

5 an image-capturing element that captures a subject
image through said photographing optical system;

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        a vibration detection section that detects camera
vibration;

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a blur correction section that corrects blur of the
10 image captured by said image-capturing element according to
detection results of said vibration detection section;

an ocular viewfinder for observing the subject with one's eyes in close contact;

a non-ocular viewfinder for observing the subject with
15 one's eyes at a distance;

a used viewfinder determination section that determines which of said ocular viewfinder and said non-ocular viewfinder is being used; and

a blur correction operation changing section that
20 changes operation of said blur correction device according
to determination results of said used viewfinder
determination section.

2. An image blur correction camera of claim 1, wherein:

25 said blur correction operation changing section

suspends operation of said blur correction section in the event that said used viewfinder determination section has determined that said non-ocular viewfinder is being used.

5 3. An image blur correction camera of claim 1, wherein:

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said blur correction operation changing section engages said blur correction section to operate, in the event that said used viewfinder determination section has determined that said non-ocular viewfinder is being used, so
10 that a range over which the image blur correction can be carried out becomes wider than that when it is determined that said ocular viewfinder is being used.

4. An image blur correction camera of claim 3, wherein:

15 said blur correction device includes an optical blur correction device that corrects image blur by moving a movement member so as to make a change in relative position between the subject image formed on said image-capturing element and said image-capturing element itself; and

20 said blur correction operation changing section expands a operable range of said movement member so as to expand the range over which the image blur correction can be carried out, in the event that said used viewfinder determination section has determined that said non-ocular
25 viewfinder is being used.

5. An image blur correction camera of claim 3, wherein:

said blur correction device includes an optical blur correction device that corrects image blur by moving a movement member so as to make a change in relative position between the subject image formed on said image-capturing element and said image-capturing element itself; and

said blur correction operation changing section sets a center bias of said movement member weakly so as to expand the range over which the image blur correction can be carried out, in the event that said used viewfinder determination section has determined that said non-ocular viewfinder is being used.

6. An image blur correction camera of claim 4, wherein

said movement member is part of said photographing optical system.

7. An image blur correction camera of claim 5, wherein:

said movement member is part of said photographing optical system.

8. An image blur correction camera of claim 1, wherein:

said blur correction device includes an electronic blur correction device that corrects image blur by subjecting

image data generated by said image-capturing element to image processing; and

said blur correction operation changing section engages said blur correction device to operate so that image blur correction is carried out by said electronic blur correction device if it is determined by said used viewfinder determination section that said non-ocular viewfinder is being used, while image blur correction is not carried out by said electronic blur correction device if it is determined by said used viewfinder determination section that said ocular viewfinder is being used.

9. An image blur correction camera of claim 1, wherein:
said vibration detection section has an angular velocity sensor that detects angular velocity of the camera; and

said blur correction operation changing section engages said blur correction device to operate so that image blur correction is carried out based on detection results from said angular velocity sensor and image data generated by said image-capturing element when it is determined by said used viewfinder determination section that said non-ocular viewfinder is being used, while image blur correction is carried out based on detection results from said angular velocity sensor when it is determined by said used viewfinder

determination section that said ocular viewfinder is being used.

10. An image blur correction camera of claim 1, wherein:

5 said vibration detection sensor has an angular velocity sensor that detects angular velocity of the camera and an acceleration sensor that detects acceleration of the camera; and

 said blur correction operation changing section
10 engages said blur correction device to operated so that image blur correction is carried out based on detection results of said angular velocity sensor and said acceleration sensor if it is determined by said used viewfinder determination section that said non-ocular viewfinder is being used, while
15 image blur correction is carried out based on detection results from said angular velocity sensor if it is determined by said used viewfinder determination section that said ocular viewfinder is being used.

20 11. An image blur correction camera of claim 1, further comprising:

 a low-pass filter that passes waves with frequency lower than a set cut-off frequency; and wherein

 said blur correction operation changing section
25 switches the cut-off frequency of said low pass filter

depending on the viewfinder being used determined by said used
viewfinder determination section.

12. An image blur correction camera of claim 11, wherein:

5 said blur correction operation changing section sets
the cut-off frequency of said low pass filter, when it is
determined that said non-ocular viewfinder is being used, to
a value that is lower than that of when it is determined that
said ocular viewfinder is being used.

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13. An image blur correction camera of claim 11, wherein:

 said vibration detection section has an angular
velocity sensor that detects angular velocity of the camera.

15 14. An image blur correction camera of claim 1, wherein:

 said blur correction device has an optical blur
correction device that corrects image blur by moving a
movement member so as to make a change in relative position
between the subject image formed on said image-capturing
20 element and said image-capturing element itself, and an
electronic blur correction device that corrects image blur
by subjecting image data generated by said image-capturing
element to image processing; and

 said blur correction operation changing section
25 engages said blur correction device to operate so that image

blur correction is carried out by said optical blur correction device and said electronic blur correction device, or by said electronic blur correction device if it is determined by said used viewfinder determination section that said non-ocular
5 viewfinder is being used, while image blur correction is carried out by said optical blur correction device if it is determined that said ocular viewfinder is being used.

15. An image blur correction camera of claim 14, wherein:
10 said vibration detection section has an angular velocity sensor that detects angular velocity of the camera; and
 said optical blur correction device carries out image blur correction based on detection results of said angular
15 velocity sensor.

16. An image blur correction camera, comprising:
 an image-capturing element that captures a subject image through a photographing optical system;
20 a vibration detection section that detects vibration of the camera;
 a blur correction signal output section that outputs blur correction signals to a blur correction device that carries out blur correction of the image formed by said
25 image-capturing element according to detection results from

said vibration detection section;

an ocular viewfinder for observing the subject with one's eyes in close contact;

a non-ocular viewfinder for observing the subject with
5 one's eyes at a distance;

a used viewfinder determination section that determines which of said ocular viewfinder and said non-ocular viewfinder is being used; and

a blur correction operation changing section that
10 controls said blur correction signal output section so as to output the signals for changing operation of said blur correction device depending on determination results of from said used viewfinder determination section.

15 17. An image blur correction camera of claim 16, wherein:

said blur correction operation changing section controls said blur correction signal output section so as to output the signals for suspending operation of the blur correction device when it is determined by said used
20 viewfinder determination section that said non-ocular viewfinder is being used.

18. An image blur correction camera of claim 16, wherein:

said blur correction operation changing section
25 controls said blur correction signal output section, when it

is determined by said used viewfinder determination section that said non-ocular viewfinder is being used, so as to output the signals for making a range over which the blur correction device is capable of performing image blur correction larger than that when it is determined that said ocular viewfinder is being used.

19. An image blur correction camera of claim 18, wherein:

10 said blur correction signal output section outputs the signals so as to change a range of movement of a movement member included in an optical blur correction device which makes a change in a relative position between the subject image formed on said image-capturing element and said image-capturing element itself for correcting image blur; and

15 said blur correction operation changing section controls said blur correction signal output section so as to output the signals for expanding the moveable range of the movement member to increase a range over which image blur correction can be carried out when it is determined by said
20 used viewfinder determination section that said non-ocular viewfinder is being used.

20. An image blur correction camera of claim 18, wherein:

25 said blur correction signal output section outputs the signals so as to change center bias of a movement member

22. An image blur correction camera of claim 16, wherein:
said vibration detection section has an angular
velocity sensor that detects angular velocity of the camera;

5 and

said blur correction operation changing section
controls said blur correction signal output section so as to
output the signals for image blur correction based on
detection results from said angular velocity sensor and image
10 data generated by said image-capturing element when it is
determined by said used viewfinder determination section that
said non-ocular viewfinder is being used, and for image blur
correction based on detection results from said angular
velocity sensor when it is determined that said ocular
15 viewfinder is being used.

23. An image blur correction camera of claim 16, wherein:

said vibration detection section has an angular
velocity sensor that detects angular velocity of the camera,
20 and an acceleration sensor that detects acceleration of the
camera; and

said blur correction operation changing section
controls said blur correction signal output section so as to
output the signals for image blur correction based on
25 detection results from said angular velocity sensor and said

acceleration sensor when it is determined by said used
viewfinder determination section that said non-ocular
viewfinder is being used, and for image blur correction based
on detection results from said angular velocity sensor when
5 it is determined that said ocular viewfinder is being used.

24. An image blur correction camera of claim 16, further
comprising:

10 a low-pass filter that passes waves with frequency
lower than a set cut-off frequency; and wherein
said blur correction operation changing section
switches the cut-off frequency of said low pass filter
depending on the viewfinder being used determined by said used
viewfinder determination section.

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25. An image blur correction camera of claim 24, wherein:
said blur correction operation changing section sets
the cut-off frequency of said low pass filter, when it is
determined that said non-ocular viewfinder is being used, to
20 a value that is lower than that when it is detected that said
ocular viewfinder is being used.

26. An image blur correction camera of claim 24, wherein:
said vibration detection section has an angular
25 velocity sensor that detects angular velocity of the camera.

27. An image blur correction camera of claim 16, further comprising:

an electronic blur correction device that corrects
5 image blur by subjecting image data generated by said
image-capturing element to image processing; and wherein
said blur correction signal output section outputs blur
correction signals to an optical blur correction device which
makes a change in a relative position between the subject
10 image formed on said image-capturing element and said
image-capturing element itself using a movement member for
correcting image blur, and to said electronic blur correction
device; and

said blur correction operation changing section
15 controls said blur correction signal output section so as to
output the signals in order to carry out image blur correction
by the optical blur correction device and said electronic blur
correction device, or by said electronic blur correction
device if it is determined by said used viewfinder
20 determination section that said non-ocular viewfinder is
being used, and in order to carry out image blur correction
by the optical blur correction device if it is determined that
said ocular viewfinder is being used.

28. An image blur correction camera of claim 27, wherein:

said vibration detection section has an angular velocity sensor that detects angular velocity of the camera; and

said blur correction operation changing section
5 controls said blur correction signal output section so as to output the signals to the optical blur correction device for correcting image blur based on detection results of said angular velocity sensor.

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10 29. A method for controlling of image blur correction, comprising:

controlling image blur correction in accordance with a predetermined algorithm from a first algorithm and a second algorithm, according to camera vibration.

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30. A method for controlling of image blur correction of claim 29, comprising:

controlling image blur correction in accordance with the first algorithm if an ocular viewfinder is being used,
20 while controlling image blur correction in accordance with the second algorithm if the ocular viewfinder is not being used.

31. A method for controlling of image blur correction of claim
25 30, wherein:

the first algorithm is an algorithm for controlling so as to carry out image blur correction; and

the second algorithm is an algorithm for controlling so as not to carry out image blur correction.

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32. A method for controlling of image blur of claim 30, wherein:

the first algorithm is an algorithm for controlling so as to carry out image blur correction; and

10 the second algorithm is an algorithm for controlling so as to carry out image blur correction making a range over which image blur correction can be performed wider than that of image blur correction using the first algorithm.

15 33. A method for controlling of image blur correction of claim 30, wherein:

the first algorithm is an algorithm for controlling so as to carry out optical blur correction; and

20 the second algorithm is an algorithm for controlling so as to carry out electronic blur correction.

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